



SF2962 Mathematics in General Insurance, Advanced Course

7.5 credits

Sakförsäkringsmatematik, fortsättningskurs

This is a translation of the Swedish, legally binding, course syllabus.

Establishment

Course syllabus for SF2962 valid from Autumn 2007

Grading scale

A, B, C, D, E, FX, F

Education cycle

Second cycle

Main field of study

Specific prerequisites

SF2961 Mathematics in general insurance, SF2950 Applied mathematical statistics.

Language of instruction

The language of instruction is specified in the course offering information in the course catalogue.

Intended learning outcomes

To pass the course, the student should be able to do the following:

- define basic concepts in insurance mathematics that are used in pricing of insurance contracts
- explain the use and theoretical background of commonly used GLM and credibility models for pricing
- explain how GLM and credibility can be combined to solve more complex problems of pricing
- apply the models and derive estimates and their properties
- use the methods above to calculate a tariff in a real situation using statistical software
- explain the use and theoretical background of commonly used methods for reserving
- calculate reserves with these methods in real situations

To receive the highest grade, the student should in addition be able to do the following:

- Combine all the concepts and methods mentioned above in order to solve more complex problems.

Course contents

Methods for pricing insurances: generalized linear models (GLM). Credibility theory, especially Bühlmann-Straubs estimator. Simultaneous use of credibility and GLM. Reserving — calculation of reserves for open claims with different methods. Analysis of real insurance examples using statistical software.

Course literature

To be announced.

Examination

- INL1 - Project, 3.5 credits, grading scale: P, F
- TEN1 - Examination, 4.0 credits, grading scale: A, B, C, D, E, FX, F

Based on recommendation from KTH's coordinator for disabilities, the examiner will decide how to adapt an examination for students with documented disability.

The examiner may apply another examination format when re-examining individual students.

If the course is discontinued, students may request to be examined during the following two academic years.

Other requirements for final grade

Written exam.

Project assignments.

Participation at seminars.

Ethical approach

- All members of a group are responsible for the group's work.
- In any assessment, every student shall honestly disclose any help received and sources used.
- In an oral assessment, every student shall be able to present and answer questions about the entire assignment and solution.